1 **CONTROL FOR FORWARD AND REVERSE**
2 .Cyclical or sequential (e.g., machine controlled, etc.)
3 ..Including device for shifting belt laterally of its direction of run
4 .Including separate belts for forward and reverse
5 ..Belt selection by shifting or tightening belt
6 ...Including device for shifting belt laterally of its direction of run
7 .Including coaxial pulleys rotated in opposite directions by single endless belt simultaneously engaging both pulleys
8 **PULLEY WITH BELT-RECEIVING GROOVE FORMED BY DRIVE FACES ON RELATIVELY AXIALLY MOVABLE COAXIAL CONFRONTING MEMBERS (E.G., EXPANSIBLE CONE PULLEY, ETC.)**
9 .Members are gripping jaws actuated during each rotation of pulley
10 ..Via relatively rotating cam and follower
11 .Speed responsive
12 ..And load responsive
13 ..To centrifugal force
14 ...Via pivoted weight
15 ...Via ball
16 ...Via liquid
17 .Load responsive
18 ..With actuator driven by electrical or fluid motor
19 ..Via relatively rotating cam and follower
20 ...Including interengaged threads
21 ...Including plural separate cam and follower pairs for adjusting plural members
22 .Temperature responsive
23 .Adjusted by power from pulley drive train
24 .And member has plural, relatively axially movable drive faces
25 .And pulley shiftable laterally of its axis of rotation
26 ..Mounted on laterally shiftable motor
27 ..Mounted on laterally shiftable countershaft
28 .Fluid pressure actuator for adjustment of member
29 .Including actuator interconnecting plural pulleys on spaced shafts for simultaneous adjustment
30 ..For axial adjustment of each member on each pulley
31 ...By dual lever mechanism
32 .Plural members forming plural belt-receiving grooves on common axis
33 ..With member common to plural grooves
34 ...Plural members common to plural grooves
35 ..Axially spaced members simultaneously adjustable
36 ...On bolt radially spaced from pulley axis
37 .By manual actuator for one or both confronting members
38 ..With neutral condition of drive
39 ..Screw actuated
40 ...With additional linkage in actuator drive train
41 ...By opposite-handed screw threads engaging adjacent members
42 ...With means to positively lock members in adjusted position
43 .Including lubrication or particular guide or bearing for movable member
44 ..Self-lubricated bearing
45 ..With lubrication of support for movable member
46 .With spring device
47 **PULLEY WITH EXPANSIBLE RIM MEANS OR PULLEYS WITH ALTERNATELY USEABLE NESTABLE RIMS**
48 .Nestable rims of diverse kind (e.g., one grooved and the other cylindrical, etc.)
49 .Structure for variably adjusting radius of rim section
50 ..By actuator responsive to speed or load
51 ..By fluid pressure actuator or inflatable rim

52 ..Including means interconnecting plural pulleys for simultaneous adjustment
53 ...Pulleys on spaced axes
54 ..By actuator having collar concentric with, and movable axially on, pulley axis
55 ...Collar interconnected with rim sections via pivoted link
56 ..By actuator having collar concentric with, and rotatable in plane perpendicular to pulley axis
57 ...Collar interconnected with rim sections via pivoted link
58 **POWER OUTPUT PULLEY SELECTIVELY SHIFTABLE TO DIFFERENT POWER OUTPUT LOCATIONS RELATIVE TO INPUT PULLEY**
59 .Pivotable about plural axes
60 ..Nonparallel axes
61 **POWER INPUT AND OUTPUT PULLEYS ON NONPARALLEL AXES**
62 .With common belt engaging both pulleys
63 ..And shiftable guide roll engaging belt run
64 **PLURAL TURNS OF SAME BELT ABOUT PULLEY AXIS**
65 .With flexible belt-tracking guide helically coiled about pulley
66 .Plural turns of same belt about axis of each of laterally spaced pulleys
67 ..With guide roll
68 ...Plural guide rolls
69 **CONTROL FOR VARIABLE INPUT TO OUTPUT SPEED-RATIO**
70 .Condition responsive (e.g., responsive to speed, load, etc.)
71 .Cyclical or sequential (e.g., machine controlled, etc.)
72 .Including intermeshing gears in one drive train
73 .Including separate belt on each of coaxial pulleys selectively engaged in drive train
74 ..With overrunning clutch
75 ..Selection by tightening belt on selected pulley
76 ..Selection by axially movable pin engaged in opening through selected pulley
77 .Including coaxial pulleys shiftable axially to align selected pulley with drive belt
78 .Including belt shiftable axially from one to another surface of stepped pulley or coaxial pulleys of different diameter
79 ..And pulley pivotally mounted to facilitate belt shift
80 ..And including belt-shifter mechanism
81 ...For shifting belt from both power input and power output pulleys
82 ...Shifter mechanism including parallelogram linkage
83 .Including mechanism for shifting belt axially on spaced pulleys with tapering drive face
84 **PLURAL BELTS OR PLURAL OUTPUT LOADS**
85 .Plural belts having interengaged drive surfaces
86 .Plural output loads
87 ..With common belt concurrently engaging input and plural output pulleys
88 .Plural belts in series via countershaft
89 ..Countershaft laterally shiftable
90 **STATIC ELECTRICITY ELIMINATOR**
91 **STRUCTURE FACILITATING LUBRICATION OF BELT, PULLEY, OR GUIDE ROLL**
92 **CLEANING DEVICE FOR BELT, PULLEY, OR GUIDE ROLL**
93 **FLUID-IMPELLING MEANS (E.G., FOR COOLING, ETC.)**
94 **RESILIENT CONNECTION BETWEEN PULLEY OR GUIDE-ROLL RIM AND MOUNT**
95 **HUB FORMED IN SECTIONS AND SEPARABLE BY MOVING SECTIONS RADIALLY APART (E.G., SPLIT PULLEY TO FACILITATE INSTALLATION, ETC.)**

96 .And severance lines for separable rim sections diametrically opposite each other
97 ..With spokes connecting hub section and rim section
98 ...Plural integral spokes
99 ....With discrete means connecting outer ends of integral spokes to rim
100 **AUXILIARY ENDLESS BAND FOR GUIDING BELT OR HOLDING BELT ENGAGED WITH PULLEY**
101 **MEANS FOR ADJUSTING BELT TENSION OR FOR SHIFTING BELT, PULLEY OR GUIDE ROLL**
102 .With sensor for controlling operation of shifter to correct belt training deviation
103 ..Shifter driven by electrical or fluid motor
104 ...Fluid motor
105 ..Sensor actuates pawl-and-rachet mechanism to operate shifter
106 ..Sensor includes rotatable belt-engaging surface
107 ...Rotatable on same axis as shiftable guide roll or pulley
108 ....To initiate relative axial movement of belt-engaging surfaces of guide roll or pulley
109 .Load responsive tension adjuster or shifter
110 .Tension adjuster or shifter driven by electrical or fluid motor
111 .Tension adjuster has surface in sliding contact with belt
112 .Pulley or guide roll has eccentric mount for shifting or tensioning movement
113 .Pulley shifter
114 ..Pulley on shaft of adjustably mounted drive motor
115 ...Spring biased in belt-tensioning direction
116 ..Pulley is vehicle drive pulley (e.g., bicycle sprocket, etc.)
117 ..Spring biased in belt-tensioning direction
118 ..Pulley shiftable into engagement with exterior of belt surface
119 .Belt shifter for shifting belt laterally or for selective engagement and supported disengagement of belt with pulley
120 ..Pulley has slot in groove-forming flange facilitating belt installation or removal
121 ..For shifting exterior surface of belt into engagement with pulley
122 ..For shifting belt laterally
123 ...By adjusting axial inclination of belt guide roll
124 ...With idler support having circumferentially spaced rollers to receive shifted belt
125 ...Including means for selectively clutching coaxial idler support to pulley
126 ...Shifter actuated by screw or gear drive
127 ...Shifter actuated by flexible cable
128 ...Shifter actuated by handle pivoted about fixed axis
129 ....And connector link between handle and shifter pivotable about spaced fixed axis
130 ..Portable hand tool for removing or installing belt
131 .Guide roll forms belt-thickness gap with pulley
132 .Gravity actuated guide roll for tensioning belt
133 .Guide roll mounted for movement of its axis along arcuate path to tension belt
134 ..Plural guide rolls engaging single belt
135 ..Guide roll spring biased in belt-tensioning direction
136 .Guide roll mounted for movement of its axis along rectilineal path to tension belt
137 ..Plural guide rolls engaging single belt
138 ..Guide roll spring biased in belt-tensioning direction
139 **PULLEY ENGAGES EXTERIOR SURFACE OF BELT**
140 **BELT GUIDE HAS SURFACE IN SLIDING CONTACT WITH BELT**

141 **PULLEY HAVING CIRCUMFERENTIALLY SPACED PORTIONS OF DRIVE FACE SPACED UNEQUAL DISTANCES FROM PULLEY AXIS OF ROTATION (E.G., ELLIPTICAL PULLEY, ETC.)**
142 **MAGNETIC ATTRACTION BETWEEN BELT AND PULLEY**
143 **FABRIC DRIVE FACE ON BELT AND PULLEY**
144 **GUARD OR HOUSING FOR BELT OR PULLEY**
145 .Connected to belt
146 .Extending along entire length of belt run
147 ..Individual tubular housings for opposite belt run
148 **SYSTEM INCLUDING SPACED PULLEYS INTERCONNECTED BY A BELT**
149 .Positive drive pulley and friction drive pulley connected by same belt
150 .With frame or mount for system
151 **AUXILIARY MEMBER REMOVABLY ATTACHED TO PULLEY OR GUIDE ROLL FOR PREVENTING LATERAL DISPLACEMENT OF BELT**
152 **POSITIVE DRIVE PULLEY OR GUIDE ROLL**
153 .With particular belt
154 ..Belt has spherical or hemispherical drive faces
155 ..Belt formed of rigid links
156 ...With sequential links pivoted about discrete pivot pin
157 ....And each link has integral surfaces forming inwardly opening groove
158 .And additional coaxial surface for engaging same belt in shifted condition or for engaging auxiliary belt, brake, or clutch member
159 ..Coaxial surface is belt-engaging surface on friction drive pulley
160 ..Coaxial surface is belt-engaging surface on positive drive pulley of different circumference
161 .Having nonmetallic component
162 .Having belt-engaging surfaces on discrete circumferentially spaced, relatively movable or replaceable members
163 ..Movable with respect to each other during operation
164 .Having axially spaced sets of belt-engaging surfaces
165 .With stationary support for pulley or guide roll
166 **FRICTION DRIVE PULLEY OR GUIDE ROLL**
167 .With particular belt
168 .Including plural, coaxial, circumferential belt-receiving grooves
169 ..Plural grooves of different circumferences
170 ..Plural grooves formed in unitary member
171 .And additional coaxial surface for engaging same belt in shifted condition or for engaging auxiliary belt, brake, or clutch member
172 .Guide roll on axis perpendicular to top surface of belt for engaging side of belt
173 ..And additional guide roll for engaging top or bottom surface of belt
174 .Pulley or guide roll including circumferential belt-receiving groove
175 ..Groove formed by rugate or circumferentially spaced drive surfaces
176 ..Groove formed by multiple, abutting, circumferentially connected members
177 ..And circumferentially continuous belt-engaging layer or insert of diverse material added on or between groove-forming flanges
178 ...Layer or insert of resilient material
179 ..Including connected discrete axially spaced groove-forming flanges
180 ...Connected via nesting cylindrical or conical surfaces integral with the flanges
181 ...And abutting radial surfaces integral with the flanges
182 ....Including connector extending through opening in abutting surfaces

183 .....Connector comprises tang integral with one of the surfaces
184 .Pulley or guide roll having plural, discrete belt-engaging faces for engaging flat belt
185 ..Circumferentially spaced faces
186 ...And axially spaced faces
187 ..Each face has continuous circumferential periphery
188 .Including grooves or openings in cylindrical belt-engaging surface (e.g., for escape of air, etc.)
189 ..Circumferentially extending grooves
190 .Including nonmetallic belt-engaging surface portion
191 ..Rubber
192 ...With embedded metal layer
193 ..Leather
194 ..Wood or paper
195 .With spokes connecting rim to hub
196 ..Plural spoke sets axially spaced
197 .Cylindrical rim interconnected to axially spaced support members
198 .With stationary support for pulley or guide roll
199 ..And ball or roller bearing for mounting pulley or guide roll on support
200 **MOBIUS BELT**
201 **BELT HAVING DRIVE SURFACES ON OPPOSITE SIDE EDGES OF STACKED PLATES HAVING PLANAR FACES PERPENDICULAR TO DIRECTION OF BELT MOVEMENT**
202 **POSITIVE DRIVE BELT**
203 .Drive surfaces on belt formed by spherical or hemispherical elements
204 .Drive surfaces on belt formed in or interconnected by continuous flexible member
205 ..Drive surfaces on longitudinally spaced teeth formed integral with flexible member
206 .Belt formed of rigid links
207 ..Including nonmetallic part
208 ..Including wire member coiled about pivotal axis between links
209 ..Including ball or roller bearing circumferentially spaced about pivotal axis between links
210 ..Links pivotable about diverse axes during operation (e.g., "universal" connection facilitating alignment with sprockets in diverse planes)
211 ...Ball-and-socket connection
212 ..Link including integral surfaces forming inwardly opening groove (e.g., silent chain, etc.)
213 ...Plural links having laterally aligned groove-forming surfaces
214 ....Connector or bearing member extending through or positioned in laterally aligned openings in adjacent links is noncircular in transverse cross section
215 .....Multiple connector or bearing members extend through or positioned in common opening
216 ......Concave surface of one connector or bearing member abuts convex surface of another connector or bearing members
217 ....Plural connector or bearing members with concave surface abut convex surface or surfaces on another connector or bearing member
218 ..Including diverse member for interconnecting opposite ends to complete loop (e.g., repair link for broken chain, etc.)
219 ..Including separate locking member for retaining link-connector in laterally aligned openings through adjacent links
220 ...Common locking member retains longitudinally spaced connectors
221 ....Strandlike locking member (e.g., wire, etc.)
222 ...Threaded connection between connector and locking member

223 ...Locking member received in annular groove extending entirely around circumference of connector
224 ...Locking member includes portion disposed within opening which receives connector
225 ....Locking member extends through all aligned openings
226 ..Link including discrete members forming laterally spaced sides of opening for pulley tooth
227 ...With particular structure facilitating disassembly of adjacent links
228 ...With discrete connector extending through laterally aligned apertures in adjacent links
229 ....Connector has bearing surface which is noncircular in transverse cross section
230 ....Connector connects sequential links each having discrete members forming laterally spaced sides
231 .....With sleeve rotatable with respect to each link for engaging pulley tooth
232 ..Link including common member forming laterally spaced sides of opening for pulley tooth
233 ...With discrete member interconnecting sequential pulley-tooth-receiving links
234 ....Connector member inserted through lateral opening in pulley-tooth-receiving links
235 ...Common member surrounds opening for pulley tooth on all sides
236 ....Member formed from sheet metal
237 **FRICTION DRIVE BELT**
238 .Including plural interconnected and transversely spaced pairs of oppositely facing side-drive surfaces (e.g., plural "V-belts", etc.)
239 .Having drive surface on helically coiled wire or cord
240 .Including plural interconnected members each having a drive surface facing in a common direction
241 ..Forming imbricate structure
242 ..Belt has oppositely facing side drive surfaces (e.g., "V-belt", etc.)
243 ...Surfaces on ball or roller elements
244 ...Oppositely facing surfaces are on pair of discrete elements
245 ....And sequential pairs are interconnected longitudinally by distinct pivot elements
246 ..Plural, inwardly facing drive surfaces along the direction transverse to longitudinal extent of belt
247 ...And plural, inwardly facing drive surfaces along the direction parallel to longitudinal extent of belt
248 .Including link-chain coextensive with continuous surface belt
249 .Including groove, openings or pockets formed in belt surface and arranged along entire length of belt (e.g., for flexibility, air escape, etc.)
250 ..Grooves transversely extending on belt surface
251 ...And additional groove on opposite surface
252 ..Groove continuous and longitudinally extending
253 .Including particular means connecting opposite ends to form loop
254 ..Connected by adhering surface on one end to surface on other end (e.g., by adhesive, heat, seal, etc.)
255 ..Including discrete connector
256 ...Connector comprises element inserted into longitudinal openings in belt ends
257 ...Connector comprises plate clamped externally of belt ends
258 ...Connector comprises cord sewn through belt ends
259 .Drive surface on single sheet or web wound in plural, completely overlying convolutions
260 .Including embedded elongated strand having multiple components or layers of diverse materials

261 .Including plural superposed layers each having strands particularly oriented relative to belt dimension
262 ..Strands in the layers are oblique to longitudinal run of belt (e.g., plural layers of bias fabric, etc.)
263 .Including discrete embedded fibers
264 .Including plural layers of different elastomeric materials
265 .Having trapezoidal cross section (e.g., "V-belt", etc.)
266 .Including fabric web (e.g., knit, woven, etc.)
267 ..Fabric having particular knit or weave
268 ..And additional coating, layer, or reinforcement of diverse kind of material
269 ...Additional material is leather
270 ...Additional material is metal
271 ...Additional material is rubber
272 .Including metallic drive face
273 **MISCELLANEOUS**

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900 **PHASE VARIATOR**
901 **PULLEY OR GUIDE ROLL FOR TRACK OF ENDLESS TRACK VEHICLE**
902 **PARTICULAR CONNECTION BETWEEN RIM AND HUB**
903 **PARTICULAR CONNECTION BETWEEN HUB AND SHAFT**

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